BIOL 2401 - Anatomy and Physiology I BIOL-2401L.041 Course Syllabus

Description

Anatomy and Physiology I is the first part of a two course sequence. It is a study of the structure and function of the human body including cells, tissues, and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include integumentary, skeletal, muscular, nervous, and special senses.
Prerequisites TSI Reading complete

Semester Offered
Every Fall
Fall Flex terms
Spring
Spring Flex terms
Summer 1
Summer 2
Summer Flex
Credits 4
Lecture Hours 3
Lab Hours 3
Extended Hours 0
Contact Hours 96
State Approval Code 26.0707.51 03
Instructor Name Prof. Corey D. Johnson
Semester/Year Fall 2024

Meeting Time and Location
Online—students are expected to spend at least 4 hours per week reading, reviewing, and participating in assigned activities for successful completion of this course.

Alternate Operations During Campus Closure

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Student Basic Needs

Unexpected circumstances may arise, but Panola College offers various resources to support students. If you need mental health services or are facing challenges with transportation, affording class materials and supplies, or accessing food regularly—issues that may impact your class performance—please visit panola.edu/resources.

Class Attendance

Regular and punctual attendance of classes and laboratories is required of all students. When a student has been ill or absent from class for approved extracurricular activities, he or she should be allowed, as far as possible, to make up for the missed work. If a student has not actively participated by the census date, they will be dropped by the instructor for non-attendance. This policy applies to courses that are in-person, online, hybrid, and hyflex.

Attendance in online courses is determined by submission of an assignment or participation in an activity. According to federal guidelines, simply logging into a distance learning course without participating in an academic assignment does not constitute attendance. Distance learning is defined as when a majority (more than 50%) of instruction occurs when the instructor and students are in separate physical locations. Students must engage in an academic activity prior to the course census date.

When an instructor feels that a student has been absent to such a degree as to invalidate the learning experience, the instructor may recommend to the Vice President of Instruction that the student be withdrawn from the course. Instructors may seek to withdraw students for non-attendance after they have accumulated the following number of absences:

Fall or spring semesters:

3 or more class meeting times per week - 5 absences

2 class meeting times per week - 3 absences

1 class meeting per week - 2 absences

The student is responsible for seeing that he or she has been officially withdrawn from a class. A student who stops attendance in a class without officially withdrawing from that class will be given a failing grade; consequently, the student must follow official withdrawal procedures in the Admissions/Records Office.

Please note: Health Science and Cosmetology courses may require more stringent attendance policies based on their accreditation agencies. Please see the addendum and/or program handbook for further information concerning attendance.

Pregnant/Parenting Policy

Panola College welcomes pregnant and parenting students as a part of the student body. This institution is committed to providing support and adaptations for a successful educational experience for pregnant and parenting students. Students experiencing a need for accommodations related to pregnancy or parenting will find a Pregnancy and Parenting Accommodations Request form in the Student Handbook or may request the form from the course instructor.

Artificial Intelligence (AI) Course Policy

No use of Generative AI permitted.

This option assumes that all work submitted by students will be generated by the students themselves, whether they are working individually or in groups. Students should not have another person or entity do the writing of any portion of an assignment, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Panola College's standards of academic integrity.

Student Learning Outcomes

Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and syntheses of information

- CT2: Gather and assess information relevant to a question
- CT3: Analyze, evaluate, and synthesize information

Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication

- CS1: Develop, interpret, and express ideas through written communication
- CS2: Develop, interpret, and express ideas through oral communication

- CS3: Develop, interpret, and express ideas through visual communication

Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

- EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion

Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goa

- TW1: Integrate different viewpoints as a member of a team
- TW2: Work with others to support and accomplish a shared goal

Instructional Goals and Purposes

The purpose of this course is to provide the student with an in-depth study of the anatomy and physiology (structure and function) of the human body. Both normal and pathological conditions are emphasized. In so doing, the student will be educated in the core components/college student learning outcomes (listed above) and the course learning outcomes (listed below).

Learning Outcomes

After studying all materials and resources presented in the course, the student will be able to:

Lecture

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

Lab

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations and predictions.

Course Content

A general description of lecture/discussion topics included in this course are listed in the Learning Outcomes section of this syllabus.

Students in all sections of this course will learn the following content:

Lecture

1. The main concepts concerning anatomy & physiology.
2. The interrelationship of chemistry with anatomy and physiology.
3. The structural components of the cell and the genetic regulation of cells.
4. The importance of enzymes, energy and metabolism to cell function.
5. The importance of membrane transport and membrane potentials to cell functions.
6. The classification, structure and function of tissues.
7. The structure, function and clinical considerations of the integumentary system.
8. The structure, function and clinical considerations of bone tissue including bone development.

9. The structure, function and clinical importance of articulations.
10. The structure, function, and clinical considerations muscles and muscle tissue.
11. The identification of the major muscle of the body.
12. The functional organization of the nervous system.
13. The characteristics, components and functions of the central nervous system.
14. The characteristics, components and functions of the peripheral nervous system.
15. The characteristics, components and functions of the autonomic nervous system.
16. The structure, function and clinical considerations of sensory organs.

Laboratory

1. The main concepts concerning anatomy & physiology.
2. The interrelationship of chemistry with anatomy and physiology.
3. The structural components of the cell and the genetic regulation of cells.
4. The importance of enzymes, energy and metabolism to cell function.
5. The importance of membrane transport and membrane potentials to cell functions.
6. The classification, structure and function of tissues.
7. The structure, function and clinical considerations of the integumentary system.
8. The structure, function and clinical considerations of bone tissue including bone development.
9. The bones and structures comprising the axial and appendicular skeletons.
10. The structure, function and clinical importance of articulations.
11. The structure, function, and clinical considerations associated with muscles and muscle tissue.
12. The major muscles of the body.
13. The characteristics, components and functions of the central nervous system.
14. The characteristics, components and functions of the peripheral nervous system.
15. The structure, function and clinical considerations of sensory organs.

Methods of Instruction/Course Format/Delivery

This course is offered in a variety of formats: face to face, hybrid, and online. The course typically includes lecture, class discussion, reading assignments, laboratory performance, web-based assignments including and web-based tutorials.

Major Assignments/Assessments

The following items are assigned and assessed during the semester and used to calculate the student's final grade.

Assignments

Lecture

1. **Class Quizzes**: Several quizzes will be given during the semester. Any lecture session may begin or end with a quiz. Quiz questions will be drawn from lecture notes, reading assignments and text objectives. Each quiz may consist of multiple-choice, true/false, matching, and fill-in-the-blank questions.
2. **Mastering A&P Quizzes**: There will be several publisher-administered Mastering A&P quizzes which are accessed via Canvas. The quizzes are untimed quizzes which are opened and closed at a date and time set by the professor. Each quiz may consist of multiple-choice, true/false, matching, fill-in-the-blank, and short-answer questions.
3. **Exams**: Several exams will be administered during the semester. Each exam typically covers two to three chapters from the textbook. Test questions will be drawn from lecture notes, reading assignments, text objectives and review sheet. Each exam may consist of multiple-choice, matching, true/false, fill in the blank, and essay type questions.
4. F**inal Exam**: A final comprehensive examination will be given the week of final exams and will cover material from the entire semester. The final comprehensive exam may consist of multiple- choice, true/false and matching questions.

Lab

1. **Lab Quizzes**: Several quizzes will be administered during the semester. Any lab session may begin or end with a quiz. Quiz questions will be drawn from lab notes, reading assignments and text objectives normally for a specific chapter in the lab book. Each quiz may consist of multiple- choice, true/false, matching, and fill-in-the-blank questions
2. **Mastering A&P Quizzes**: There will be several publisher-administered Mastering A&P quizzes which are accessed via Canvas. The untimed quizzes are opened and closed at a date and time set by the professor. Each quiz may consist of multiple-choice, true/false, matching, fill-in-the-blank, and short-answer questions.
3. **Lab Exercises**: Lab exercises may include drawings, laboratory reports, topic presentations or any other methodologies deemed important by the professor.
4. **Lab Practicals**: Lab practical questions will cover all items studied in lab (including: models, charts, pictures, diagrams, dissections, and experiments), text objectives and review sheet. Lab practicals will consist of fill in the blank questions.

Course Grade

The grading scale for this course is as follows:

- A=90-100%
- B=80-89%
- C=70-79%
- D=60-69%
- F=< 60%

Lecture (70% of course grade)

- Lecture Quizzes – 10% of lecture grade
- Mastering A&P Quizzes – 10% of lecture grade
- Exams – 60% of lecture grade
- Final exam – 20% of lecture grade.
    - A student can have the final exam can replace the lowest lecture exam grade by participating in lecture activities, and not exceeding the college's attendance policy (see below). A missed exam is recorded as a zero and must be made-up. The comprehensive final cannot replace a missed exam score of zero

Lab (30% of course grade)

- Lab Quizzes – 20% of lab grade
- Mastering A&P Quizzes – 10% of lab grade
- Lab Exercises – 30% of lab grade
- Lab Practicals – 40% of lab grade.
    - A student can earn up to 2 points on their final lab average by active and studious participating in lab activities and not exceeding the college's attendance policy.

Texts Materials, and Supplies

Required:

- Martini, Nath and Bartholomew. 2018. Modified Mastering A&P with Pearson eText – Standalone Access Card for Fundamentals of Anatomy and Physiology 11th Edition. Pearson Education, New York, NY.
- Greene, Robison, and Strong. 2021. Laboratory Manual for Human Anatomy and Physiology: A Hands-On Approach–Main version 1st ed. Pearson Education, Hoboken, NJ. (for face-to-face lab only)
- Labster Access code (for online lab only).

Optional:

- Kapit and Elson. 2013. Anatomy Coloring Book 12th Edition. Pearson Education, Hoboken NJ.
- Krieger. 2013. A Visual Analogy Guide to Human Anatomy 3rd Edition. Morton Publishing, Englewood, CO.
- Perez. 2008. Anatomy (Flash Cards) Bar Charts Publishing, Boca Raton, FL.

Required Readings

- Martini, Nath and Bartholomew. 2018. Modified Mastering A&P with Pearson eText – Standalone Access Card for Fundamentals of Anatomy and Physiology 11th Edition. Pearson Education, New York, NY.
- Greene, Robison, and Strong. 2021. Laboratory Manual for Human Anatomy and Physiology: A Hands-On Approach–Main version 1st Edition. Pearson Education, Hoboken, NJ. (for face-to- face lab only)
- Labster Access code (for online lab only).

Recommended Readings

- Kapit and Elson. 2013. Anatomy Coloring Book 12th Edition. Pearson Education, Hoboken NJ.
- Krieger. 2013. A Visual Analogy Guide to Human Anatomy 3rd Edition. Morton Publishing, Englewood, CO.
- Perez. 2008. Anatomy (Flash Cards) Bar Charts Publishing, Boca Raton, FL.

Addendum

NOTE - A PRINTER FRIENDLY VERSION OF THIS ADDENDUM CAN BE FOUND UNDER THE "ADDITIONAL DOCUMENTS" HEADING

Lab Syllabus Addendum

Online LAB BIOL 2401 - Anatomy and Physiology 1

Revision Date: 081624

Alternate Operations:

If we are required to go to alternate operations, the plan is to continue the course digitally.

Assessment(s):

Laboratory:

Lab Quiz Grade: One (1), cumulative, makeup quiz will be offered at the end of the semester. The makeup practical will consist of fill in the blank questions. It is the responsibility of the student to take the makeup lab quiz during the scheduled time. A student will not be permitted more than one makeup quiz.

Mastering A&P Quizzes: Multiple attempts per question are allowed. No extensions are allowed on these assignments.

Lab Exercise Grade: Labster labs will be used to calculate the bulk of a student's lab exercise grade. Labster labs are digital simulations that attempt to recreate laboratory environments and processes. Labster labs have a built in late submission window (24-48 hours), and students making use of this late submission window will suffer a late penalty of, at least, 30 points.

Lab Practicals: One (1), cumulative, makeup practical will be offered at the end of the semester. The makeup practical will consist of fill in the blank questions. It is the responsibility of the student to take the makeup lab practical during the scheduled time. A student will not be permitted more than one makeup practical.

Course requirements:

Attendance:

The student is responsible for attending all lectures and laboratories and completing all assigned lecture/lab assignments/examinations. When the professor feels that the student has been absent to such a degree as

to invalidate the learning experience, the professor may recommend to the Vice President of Instructional Affairs that the student be dropped from the course. The professor may drop the student for attendance deficiencies after they have accumulated the following number of absences:

Fall or Spring semester:

4 participation activities for online lab class (an aggregate attendance score of 70-75%)

Class participation is required and encouraged. For the sake of streamlining this attendance, your class will be using an attendance grade that is aggregated from your Labster experiments. **If your attendance score is below 70%, you will not be able to gain the attendance bonus point at the end of the semester.**

Academic integrity:

Academic integrity is an important value in student development. **Cheating is defined as unauthorized help on an examination, practical or assigned course material**. A student must not receive from any other student or give to any other student any information, answers, or help during an exam, in-class quiz, and practical. A student must not "steal" the answers from an unsuspecting student during an exam, in-class quiz, and practical. A student must not use any sources for answers during the exam (including, but not limited to: notes, books or electronic devices) without prior authorization from the professor. A student must not obtain exam questions illegally, tamper with the exam/in-class quiz/practical questions, nor change the results of an exam/in-class quiz/practical after it has been graded. **All cheating infractions will result in a grade of "0" for the assignment.** A student will fail the class upon their second cheating offense. Students shall have the right to contest a cheating claim. The appeals process is specifically defined in the student handbook.

Technology (Minimum system Requirement Reminder):

Please make sure that your system is up to the task of a modern college course. The library does have some systems for checkout, but your Professor is not responsible for your technology. Below is a basic guideline of minimum system requirements for the majority of the technology used in this course:

- At least 8GB of Ram (16 GB suggested)
- At least 2.5GHz processor (3.5 GHz suggested)
- Broadband or equivalent connection is required:
- 100 Mbps download / 10Mbps upload is ideal
- 50 Mbps download / 5 Mbps upload is lower limit
- Google account (please note that your PC student email gives you access to a google account) is required
- Google Office Suite (or Microsoft Office)
- The brand of the computer does not matter as much as the requirements listed above.

General (college level critical thinking / reading):

The student is responsible for taking notes, reading and outlining course materials, and being prepared for lecture and laboratory responsibilities.

It is the responsibility of the student to complete and turn in all course work on the scheduled dates. Thirty points or more will be taken away for any assignment turned in late. Regardless of any situation, the professor should be contacted ASAP to develop an alternate schedule.

Extra Credit:

The point of extra credit is to reward students that keep up with the course readings more so than to give students a last minute saving grace. Students should note that extra credit requirements vary from Professor to Professor. Your Professor/Instructor **may** offer multiple forms of extra credit throughout the semester including but not limited to:

- Pop-Up Discussion Events
- Replacement of the lowest labster grade with bonus labster assignments.

Other

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: https://www.panolacollegestore.com.
- For testing services, use the following link: https://www.panola.edu/student-services/studentsupport/academic-testing-center.
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to https://www.panola.edu/studentservices/student-support/disability-support-services for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook: https://www.panola.edu/ (located on at the bottom under student)